

NONAQUEOUS ELECTROLYTE AND NONAQUEOUS ELECTROLYTIC SECONDARY BATTERY

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Abstract

PROBLEM TO BE SOLVED: To provide a nonaqueous electrolytic secondary battery having a high degree of incombustibility and safety, having the capability of generating high voltage and further having a high charging and discharging function by composting a nonaqueous electrolyte of a nonaqueous solvent containing a phosphoric ester compound having a group with an ether linkage and an electrolyte.

SOLUTION: The nonaqueous electrolyte of a secondary battery is composed of a nonaqueous solvent containing the phosphoric ester compound expressed by the formula and an electrolyte. In the formula, R<1>, R<2> and R<3> may be identical to or different from each other, and are an alkyl group having carbons between 1 and 4, or a group having the ether linkage expressed by -R<4>-O-R<5>. Also, R<4> and R<5> stand for a hydrocarbon group having carbons between 1 and 10. Furthermore, lithium salt such as LiPF₆, LiBF₄, LiClO₄, LiAsF₆, and LiCF₃SO₃ is mentioned, for example, as an electrolyte dissolved in the nonaqueous electrolyte. Also, the electrolyte is preferably contained in the nonaqueous electrolyte at a level of concentration between 0.5 and 2mol/L. The nonaqueous electrolyte may be used for a cylindrical nonaqueous electrolytic secondary battery or the like.

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